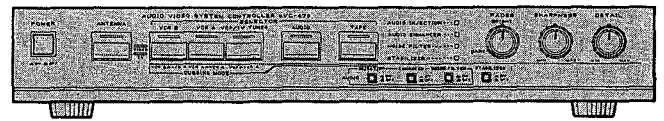


AUDIO VIDEO SYSTEM CONTROLLER

KVC-470

INSTRUCTION MANUAL



KENWOOD

B50-5224-00 (U, UE) (G)

67890N/455 D12345/555



Introduction

The purpose of this manual is to acquaint you with the operating features of your new audio video system controller. You will notice that in every detail of planning, engineering, styling, operating convenience, and adaptability, we have sought to anticipate your needs and desires.

We recommend that you read this manual carefully. Knowing how to set up your controller to the best advantage will enhance your listening pleasure right from the start. You will also become aware of the ease with which you can adjust your controller to meet your special requirements.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model KVC-470 Serial number _____

Unpacking

Unpack the unit carefully and make sure that all accessories and cables are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Important!

U.S.A. and Canada

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

These units are not equipped with an AC voltage selector switch and the discussion of such a switch that follows should be disregarded.

All other countries

Units shipped to countries other than the U.S.A. and Canada are equipped with an AC voltage selector switch on the bottom plate.

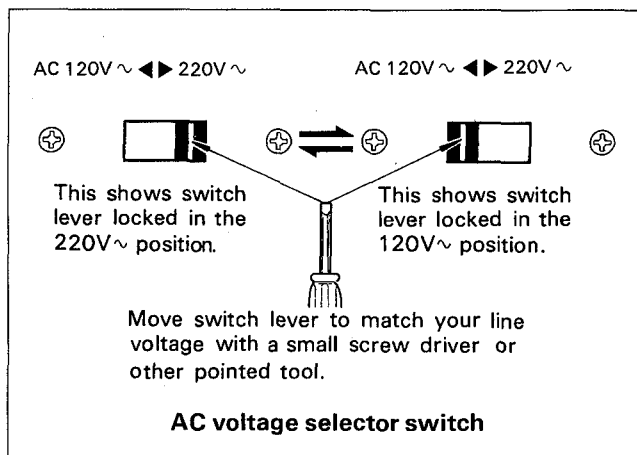
Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

This unit operates on 120 volts or 220 volts AC. The AC voltage selector switch on the bottom plate is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.



WARNING:

TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

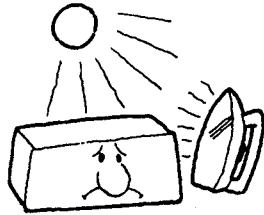
Safety precautions

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

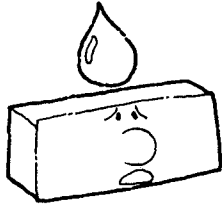
Before operation

Notes on installation

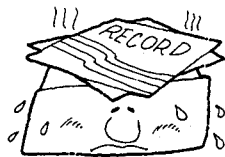
Do not place the unit in a place which is exposed to direct sunlight, near a heating appliance, etc.



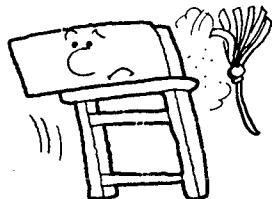
Do not place a vase containing water, makeup, etc. on the unit. Do not use in a humid place.



To maintain good ventilation, do not put records or a tablecloth on the unit. Place the unit at least 10 cm away from the walls.



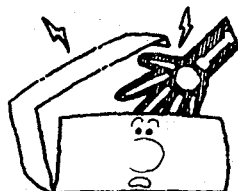
Choose a location that is relatively free from vibration or excessive dust.



- Do not place a video tape deck on top of the KVC-470. The deck may be damaged by heat from this unit.
- When operating two or more video decks, do not place the video decks close each other, or video and audio signals may be deteriorated.
- When a video deck is used in a vicinity of a TV set or controller, the audio signal may be interfered with magnetic field generated from TV set. This causes noise in the audio signal and stripes on the picture. In this case, place the video deck away from the TV set.

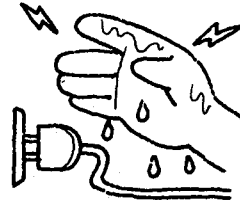
Safety precautions

Never remove the case. If the internal parts are touched accidentally, a serious electric shock might occur.



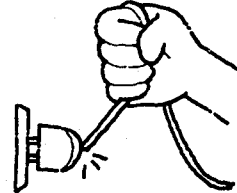
Never touch internal parts.

Touching the power plug when your hands are wet may result in a serious electric shock.



Never touch with wet hands.

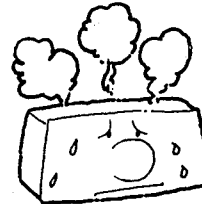
Never pull, bend or extend the power cord. This could damage the power cord, resulting in a broken cord or short-circuit.



Always grasp the plug.

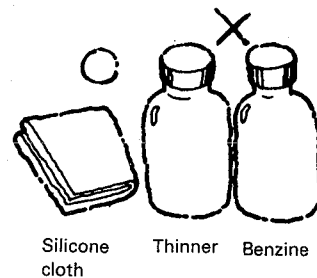
In case of abnormal smell

If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest Service Station.



Cleaning

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzene, etc. to clean the cabinet. Use a silicone cloth or a clean dry cloth.

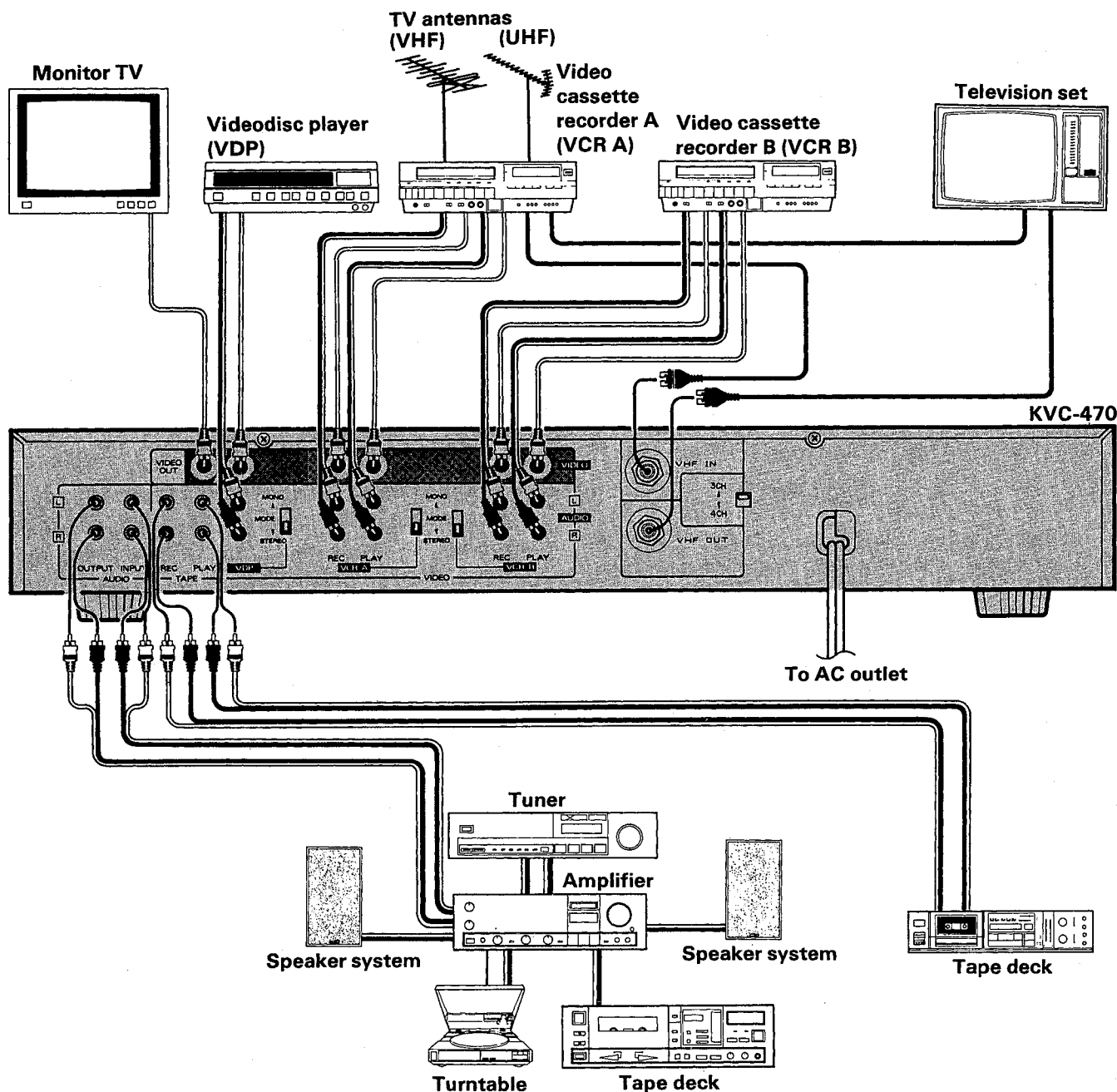


Silicone cloth

Thinner

Benzene

System connections



Connection of video decks

This unit is equipped with the VCR A and VCR B jacks for connection of two video tape decks. These jacks can be used for playback and recording.

● VCR A jacks

Video-path connection:

Recording – Connect the VIDEO REC jack of this unit and the video input jack of video deck (VCR A) with an audio cable.

Playback – Connect the VIDEO PLAY jack of this unit and the video output jack of the video deck (VCR A) with an audio cable.

Audio-path connection:

Recording – Connect the AUDIO REC jacks of this unit and the audio input jacks of the video deck (VCR A) with an audio cable.

Playback – Connect the AUDIO PLAY jacks of this unit and the audio output jacks of the video deck (VCR A) with an audio cable.

● VCR B jacks

Video-path connection:

Recording – Connect the VIDEO REC jack of this unit and the video input jack of the video deck (VCR B) with an audio cable.

Playback – Connect the VIDEO PLAY jack of this unit and the video output jack of the video deck (VCR B) with an audio cable.

Audio-path connection:

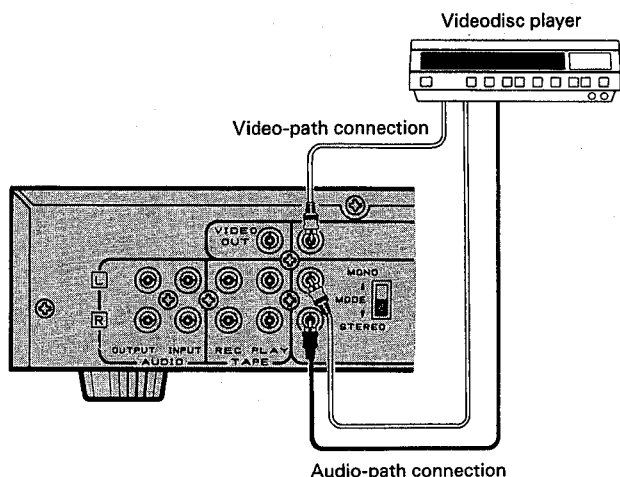
Recording – Connect the AUDIO REC jacks of this unit and the audio input jacks of the video deck (VCR B) with an audio cable.

Playback – Connect the AUDIO PLAY jacks of this unit and the audio output jacks of the video deck (VCR B) with an audio cable.

Connection of videodisc player

Video-path – Connect the VDP VIDEO jack of this unit and the video output jack of the videodisc player with an audio cable.

Audio-path – Connect the VDP AUDIO jacks of this unit and the audio output jacks of the videodisc player with an audio cable.



Videodisc connection

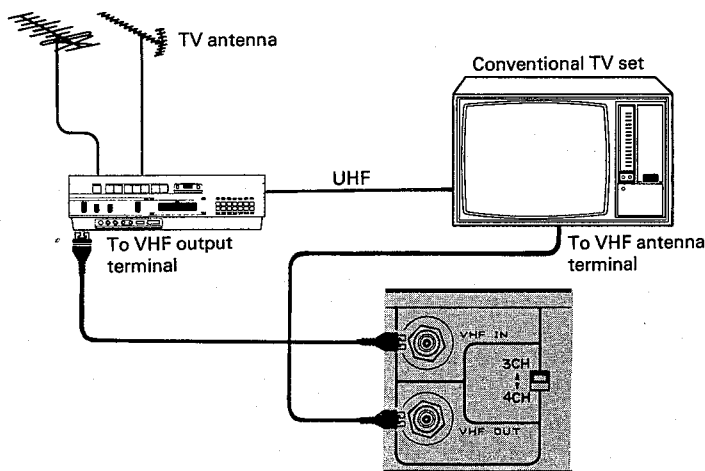
Note:

1. In some video deck, connecting the plug into the REC jack automatically shut off the built-in TV tuner section of the video deck. For details of the connection, refer to the Instruction Manual of the video deck.
2. When connecting a monaural video deck, set the MODE switch to MONO.

Connection of TV sets

● With conventional TV sets (having no video input jack)

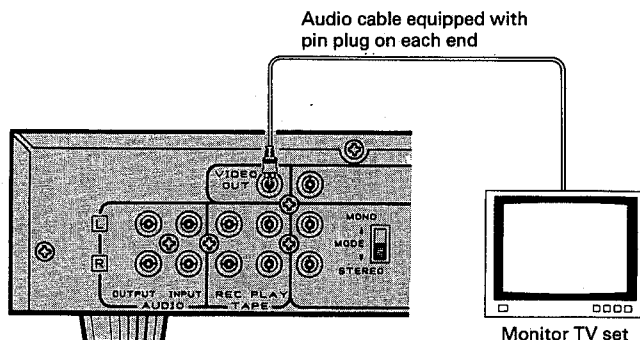
1. Connect the VHF antenna output terminal of the video deck connected to the VCR A jacks and the VHF IN terminal of this unit with the supplied coaxial cable.
2. Connect the VHF OUT terminal of this unit and the VHF antenna input terminal of the TV set with the coaxial cable supplied with the video deck.
3. Connect the UHF antenna input terminal of the TV set and the UHF antenna output terminal of the video deck with a UHF ribboned feeder lead. For proper connection, consult the Instruction Manual of your video deck.



Using conventional TV set

● With monitor TV or conventional TV equipped with the video input jack

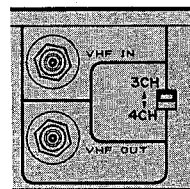
As shown in figure below connect the VIDEO OUT jack of this unit and the video input jack of the TV set with an audio cable.



Monitor TV connection

RF converter setting

The built-in RF converter converts signals played back from video equipment connected to the KVC-470 into signals used in TV broadcasting. The converted signal is transmitted to the vacant channel of the TV set connected to the KVC-470 for video reproduction. For this purpose, set the RF converter switch to the vacant channel, 3 or 4, according to your location.



RF converter setting

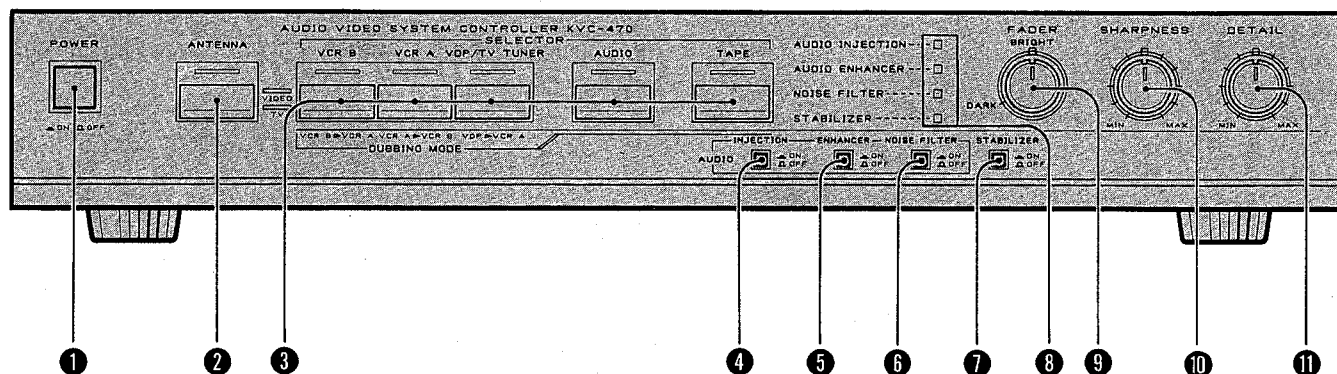
Connection of amplifier

Connect the tape input jacks of the amplifier to the AUDIO OUTPUT jacks of this unit with an audio cable. Connect the tape output jacks of the amplifier to the AUDIO INPUT jacks of this unit with an audio cable.

Connection of tape deck

Connect the line in jacks of the tape deck to the TAPE REC jacks of this unit with an audio cable. Connect the line out jacks of the tape deck to the TAPE PLAY jacks of this unit with an audio cable.

Controls, indicators and connectors



1 POWER switch

Press in to turn on power. Press it again to turn the power off.

2 ANTENNA selector

Used to select the signals to be monitored on the TV screen.

VIDEO – Use this setting when playing back a video deck or videodisc player connected. In this setting, the indicator above the switch will light.

TV – Use this setting to watch TV programs while video dubbing is in progress.

In normal use, set this switch to VIDEO. When the POWER switch is turned off, the signal fed to the VHF IN jack is transmitted directly to the TV set.

3 SELECTOR switches

VCR A – Press this switch when playing back the video deck connected to VCR A jacks.

VCR B – Press this switch when playing back the video deck connected to VCR B jacks.

VDP/TV TUNER – Press this switch when playing back the videodisc player or TV tuner connected to VDP jacks.

AUDIO – Press this switch to listen to the audio program source connected to AUDIO jacks.

TAPE – Press this switch when playing back the tape deck connected to the TAPE jacks.

4 AUDIO INJECTION switch

Used to insert the required audio signal into the sound track of a video tape on the video deck connected to the VCR A jacks. The audio signals are selected with the AUDIO switch or TAPE switch. With this system, you can prepare your personalized tape.

5 ENHANCER switch

Setting this switch to ON converts a monaural source signal into a pseudo stereo.

Notes:

1. Ensure that the ENHANCER switch is set to OFF when stereo source is to be played.
2. Do not press the switch when listening to TV or recording onto VCR A in the mono mode.

6 NOISE FILTER switch

Setting this switch to ON reduces the noise component in the frequency range of more than 3 kHz of a video tape. This feature functions even during video dubbing.

7 STABILIZER switch

Used to stabilize the vertical hold of the TV.

8 Indicators

These indicators light when the corresponding switch is set to ON.

9 FADER control

With this control, both sound and picture can be faded out. It is very useful for editing video tapes. For normal operation, set to BRIGHT.

Notes:

1. For some program source, the picture may not be faded out.
2. When the FADER control is set to DARK, the screen image sometimes moves vertically.
At that time adjust the vertical synchro control of the TV set.

10 SHARPNESS control

Use this control to adjust the picture sharpness.

Notes:

1. When a video tape is recorded or played back with the SHARPNESS control turned all the way to the right, visual noise may be recorded on the video tape or seen on the TV screen. In this case, adjust the control to eliminate it.
2. When the dubbing is carried out with the SHARPNESS control set all the way to the right or left, the video signal may not be recorded properly. In this case, adjust the SHARPNESS control to obtain the correct picture.

11 DETAIL control

Use this control to adjust the picture outline.

Notes:

1. When a video tape is recorded or played back with the DETAIL control turned all the way to the right or left, visual noise may be recorded on the video tape or seen on the TV screen. In this case, adjust the control to eliminate it.
2. When the dubbing is carried out with the DETAIL control set all the way to the right or left, the video signal may not be recorded properly. In this case, adjust the control to obtain the correct picture.

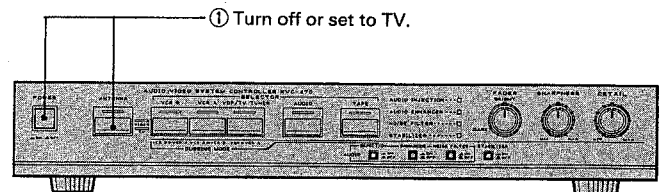
Operating instructions

Before starting the following procedures, set the VCR A and VCR B switches as follows:

1. The input selectors of the VCR A and VCR B to VIDEO
2. The antenna selectors of the VCR A and VCR B to TV
3. If your VCR is not equipped with an input selector, connect the pin plugs to the correct jacks.

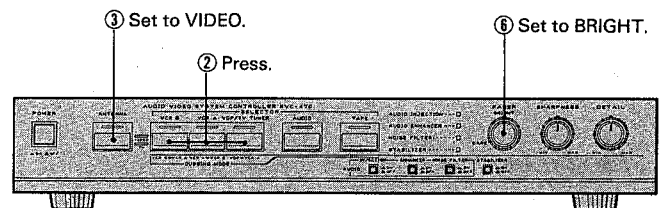
To watch a TV program

1. Set the ANTENNA selector to TV or turn the power of the controller off.
2. Adjust the TV program selector to receive your favorite program.
3. Adjust the TV volume control.



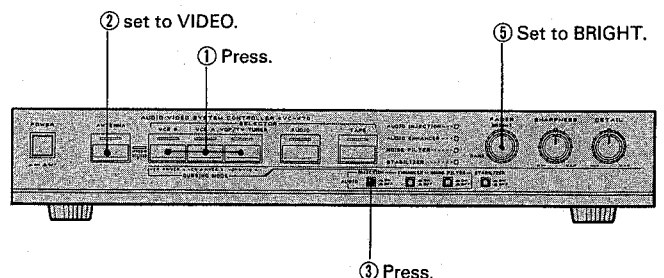
To watch a video picture on TV and listen to the sound through the speakers

1. Set the TV program selector switch to a vacant channel, 3 or 4.
2. Press the VCR A, VCR B or VDP/TV TUNER switch.
3. Set the ANTENNA selector to VIDEO.
4. Set the AUDIO INJECTION switch to OFF.
5. Operate the VCR A, VCR B or VDP. For further operation details, follow the VCR A, VCR B or VDP Instruction Manual.
6. Set the FADER control to BRIGHT.
7. Adjust the volume control and tone controls of the amplifier as your preference.
8. Adjust video controls (ENHANCER, NOISE FILTER, STABILIZER, SHARPNESS and DETAIL) as your preference.



To watch the picture of video system while listening to the audio sound

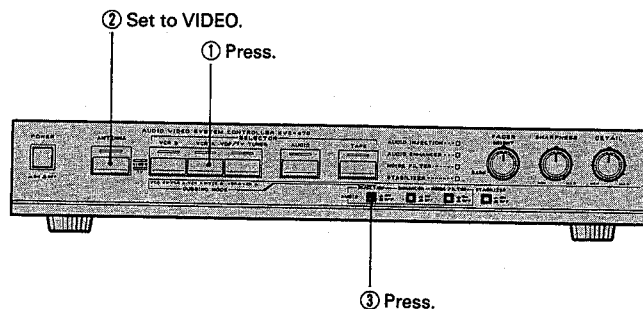
1. Press the VCR A, VCR B or VDP/TV TUNER switch.
2. Set the ANTENNA selector to VIDEO.
3. Press the AUDIO INJECTION switch.
4. To listen to tape sound, press the TAPE switch.
5. Set the FADER control to BRIGHT.
6. Start playback of VCR A, VCR B or VDP and audio program source.
7. Adjust the volume control and tone controls of the amplifier as your preference.
8. Adjust the video control (ENHANCER, NOISE FILTER, STABILIZER, SHARPNESS and DETAIL) as your preference.



To watch the picture of VCR A while recording audio program source to the VCR A

If your VCR A is equipped with an after-recording feature, an audio program source input can be added to the video tape on VCR A.

1. Press the VCR A switch.
2. Set the ANTENNA selector to VIDEO.
3. Press the AUDIO INJECTION switch.
4. To record the tape sound, press the TAPE switch.
5. Play the audio program source.
6. Turn the audio dubbing switch of the VCR A ON and set the VCR A to the recording mode. The picture of VCR A and the sound of the audio source are now be recorded onto the video tape on VCR A.

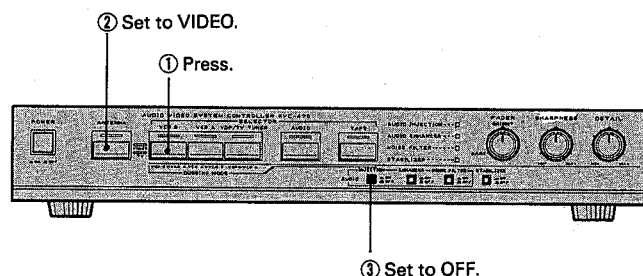


Video dubbing from VDP to VCR A and VCR B

1. Press the VDP/TV TUNER switch.
2. Set the ANTENNA selector to VIDEO.
3. Set the AUDIO INJECTION switch to OFF.
4. Follow the Instruction Manuals of the VCR A and VCR B or VDP for dubbing.
5. Start recording of VCR A, VCR B and playback of VDP. The dubbing starts.
6. Use the video controls (ENHANCER, NOISE FILTER, STABILIZER, FADER, SHARPNESS and DETAIL) to make your own personalized video tape.

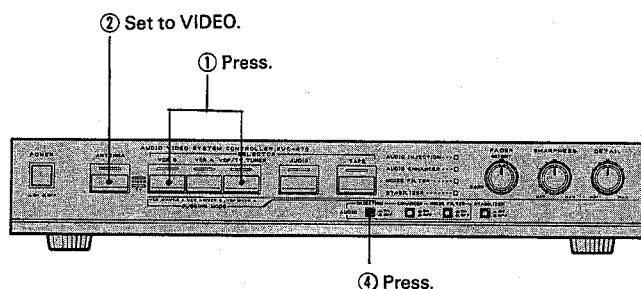
Video dubbing from VCR B to VCR A

1. Press the VCR B switch.
2. Set the ANTENNA selector to VIDEO.
3. Set the AUDIO INJECTION switch to OFF.
4. Follow the Instruction Manuals of the VCR A and VCR B for dubbing.
5. Start recording of VCR A and playback of VCR B. The dubbing starts.
6. Use the video controls (ENHANCER, NOISE FILTER, STABILIZER, FADER, SHARPNESS and DETAIL) to make your own personalized video tape.



To dub from VCR B or VDP to VCR A and to insert the desired sound source into the soundtrack of the video tape copied on VCR A

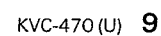
1. Press the VCR B or VDP/TV TUNER switch.
2. Set the ANTENNA selector to VIDEO.
3. To record the tape sound, press the TAPE switch.
4. Press the AUDIO INJECTION switch.
5. Operate the VCR B or VDP, VCR A and audio source equipment so that the picture and the sound source are matched when dubbing is started.
6. Use the video controls (ENHANCER, NOISE FILTER, STABILIZER, FADER, SHARPNESS and DETAIL) to make your own personalized video tape.



1. Press the VCR A, VCR B or VDP/TV TUNER switch.
2. Set the AUDIO INJECTION switch to OFF.
3. Play the video system and set the tape deck to the recording mode.
4. During recording, do not touch the TAPE switch, as the monitoring is not possible.



1. Press the AUDIO switch.
2. Press the AUDIO INJECTION switch.
3. Set the TAPE switch to OFF.
4. Play the audio system and set the tape deck to the recording mode.
5. During recording, do not touch the TAPE switch, as the monitoring is not possible.



In case of difficulty

If your controller does not operate as expected, the cause may be some error in system connections or control settings. Consult the table below to see if the problem can be corrected. If trouble persists, consult your dealer or service representative.

During video operation	Cause	Remedy
No picture on TV.	a) No SELECTOR switch used. b) One of the SELECTOR switches pressed to which no audio or video unit is connected.	Press the appropriate SELECTOR switch.
TV programs cannot be received.	The antenna cable disconnected.	Connect the antenna cable firmly.
The video tape being played back and the TV program are mixed.	The TV program selector not set to the vacant channel.	Set the TV program selector to the vacant channel 3 or 4.
When the video deck is played back, the sound is output from the left or right speaker. In the recording mode, the audio signal is not recorded.	The MODE switches on the rear panel of this unit set to STEREO.	Set the switches to MONO.
Stereo source signals are reproduced in mono.	The MODE switches set to MONO.	Set the switches to STEREO.
When the SELECTOR switch setting of this unit is changed, the picture on the TV screen becomes unstable.	The vertical or horizontal hold adjustment of the picture not properly set.	Adjust the vertical or horizontal hold control of the TV set to make the picture stable.
When audio dubbing is done to a video tape on VCR A, unexpected signals are recorded on the tape.	The input selector switch of VCR A set to TV (TUNER).	Set the input selector switch to LINE (AUX).
During audio operation	Cause	Remedy
Sound audible but continuous background buzz interferes.	TV signal picked up by turntable output cord. Frequently occurs near TV transmitting antenna.	Route turntable cord so that hum is minimized.
Howling noise occurs when volume is raised or bass response is increased.	Speaker vibrations induce feedback in pick-up.	Increase distance between turntable and speakers. Choose speaker locations carefully.

Specifications

[Video Section]

Video Input Sensitivity/Impedance	1.0 Vp-p/75 ohms unbalanced
Video Output Level/Impedance	1.0 Vp-p/75 ohms unbalanced
Signal to Noise Ratio (Video Signal)	
VCR A, VCR B, VDP → Video Out	62 dB
Frequency Response (Video Signal)	6.5 Hz ~ 10 MHz, 0 ± 2 dB
Audio Input Sensitivity/Impedance	-6 dBs/47 kohms
Audio Output Level/Impedance	-6 dBs/47 kohms
Signal to Noise Ratio (IHF-A)	
VCR B, VDP → VCR A REC	80 dB
VCR A, VCR B, VDP → Audio Out	80 dB
Frequency Response	
VCR B, VDP → VCR A REC	20 Hz ~ 100 kHz, -3 dB
VCR A, VCR B, VDP → Audio Out	10 Hz ~ 100 kHz, -3 dB

VHF Output Signal

NTSC Area	Channel 3 or 4 switchable (Preset channel 3 when shipped)
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[Audio Section]

Input Sensitivity/Impedance	
Audio In, Tape Play	150 mV/47 kohms
Signal to Noise Ratio	
Audio In, Tape Play → Audio Out	80 dB
Frequency Response	
Audio In, Tape Play → Audio Out	10 Hz ~ 100 kHz, -3 dB
Output Level/Impedance	150 mV/2 kohms
Maximum Output Level	1.3V
Total Harmonic Distortion	
Audio In, Tape Play → Audio Out	Less than 0.05%
Noise Filter	3 kHz, 6 dB/oct

[General]

Power Requirements	AC 110-120/220-240V (switchable) 50/60 Hz
Power Consumption	10 W
Dimensions	W: 420 mm (16-9/16") H: 71 mm (2-13/16") D: 276 mm (10-7/8")
Weight (Net)	3.2 kg (7 lb)

Note:

We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.